

Amendments to the Drawings

The attached two sheets of drawings include changes to FIGS. 1, 2 and 3, and replace the original sheets including FIGS. 1, 2 and 3. In FIG. 1, a symbolic representation of a vacuum source, element 10, and a hose, element 14, has been added. In FIGS. 2 and 3, cross hatching has been added to internal elements as required. No new matter has been added.

Attachments:

Two Replacement Sheets

Remarks:

This application has been reviewed carefully in light of the Office Action mailed September 22, 2009. In the Office Action, the drawings were objected to for not showing the feature of a vacuum source, as recited in the claims. Additionally, Figures 2 and 3 were objected to for not including hatching on certain internal features of the turbocharger. Claim 7 was objected to for certain informalities.

Also in the Office Action, claim 4 was rejected under 35 U.S.C. § 112, first paragraph, as allegedly containing subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. Claims 5-17 were rejected under 35 U.S.C. § 112, second paragraph, as allegedly indefinite for failing to particularly point out and distinctly claim the subject matter that the applicant regards as the invention.

Claims 4 and 12 were rejected under 35 U.S.C. § 103(a), as allegedly being unpatentable over Benson, U.S. Pat. No. 5,673,559, in view of Smith, U.S. Pat. No. 1,026,472; claim 6 as allegedly being unpatentable over Benson in view of Smith, and further in view of Kyoya et al, U.S. Pat. No. 5,137,003; claims 8 and 15 as allegedly being unpatentable over Benson in view of Smith, and further in view of Johnson, U.S. Pat. No. 3,386,465; and claims 9, 10, 16 and 17 as allegedly being unpatentable over Benson in view of Smith, and further in view of Jespersen, U.S. Pat. No. 3,695,577.

The above-described objections and rejections are addressed as follows:

I. Objections to the Drawings and the Claims

The applicant has amended FIGS. 1, 2 and 3 to comply with cited C.F.R. sections. In particular, the applicant has added a vacuum source 10 and hose 14 to FIG. 1, and has added hatching to certain internal features of the turbocharger of FIGS 2 and 3. The vacuum source now depicted in FIG. 1 is described in the Specification on the paragraph starting on page 3 and ending on page 4, beginning with "When the throttle of a gas line engine".

The applicant has corrected the spelling of the term "chamber" to address the objection to claim 7.

No new matter has been added to the application with these amendments. In light of these amendments, the applicant respectfully requests the objections to the drawings and to claim 7 be withdrawn.

II. 35 U.S.C. § 112 Rejections

As noted above, claim 4 was rejected under 35 U.S.C. § 112, first paragraph, for allegedly failing to comply with the written description requirement, and claims 5-17 were rejected under 35 U.S.C. § 112, second paragraph, as allegedly indefinite.

35 U.S.C. § 112, First Paragraph

With regard to claim 4, the applicant respectfully asserts that a bladed compressor wheel inherent in the disclosure of a turbocharger. Nevertheless, the claims have been amended to recite a housing forming an opening configured to place a compressor outlet in fluid communication with a compressor inlet, as disclosed in the paragraph beginning on page 2

with “[i]n the mounting flange 5”. No new matter has been added to the application with these amendments.

The specification adequately describes a housing forming an opening configured to place a compressor outlet in fluid communication with a
5 compressor inlet. In light of this amendment, the applicant respectfully requests the rejection of claim 4, under § 112, first paragraph, be withdrawn.

35 U.S.C. § 112, Second Paragraph

The applicant has amended claims 5-10 to remove the word
10 compressor. The applicant thanks the examiner for noting this typographical error. In light of this amendment, the applicant respectfully requests the rejection of claim 5-10, under § 112, first paragraph, be withdrawn.

Regarding claim 12 and all claims depending therefrom, the applicant
15 respectfully traverses the rejection. The applicant agrees with the summary of law recited in the Office Action, but traverses that the body of the claim does not depend on the preamble for completeness. The preamble describes the structure of a housing with which the valve assembly of the invention will operate. The elements of the claim clearly limit the structure
20 of the valve assembly with respect to the housing structure. Without the understanding of the relevant housing structure provided in the preamble, the recited structural claim limitations on the valve would not have antecedent basis. Thus, the claim depends on the preamble for completeness, and the structural limitations of the claim would not stand
25 alone (without the preamble). The applicant respectfully requests the § 112 rejections of claims 12 and its dependent claims be withdrawn.

III. 35 U.S.C. § 103(a) Rejections

Each of the pending claims was rejected under § 103(a), primarily as a combination of Benson in view of Smith, with different claims being rejected in further combination with the other cited references listed above.

5 Claims 4-10

Claim 4 has been amended to recite “a housing forming an opening configured to place a compressor outlet in fluid communication with a compressor inlet.” Neither Benson nor Smith disclose an opening configured to place a compressor outlet in fluid communication with a
10 compressor inlet.

Furthermore, claim 4 recites “a coil spring having a proximal end attached to the valve member ... and a distal end forming a second set of coils, ... wherein the second set of coils are smaller in diameter than the first set of coils....” Smith discloses a valve with a spring 8 and a separate
15 lock device 12. The lock device is adjustably mounted upon the sleeve 9 and supports the lower end of the spring 8 (see, pg. 1, lines 83-85). Smith fails to disclose a coil spring having a proximal end attached to the valve member and a distal end forming a second set of coils, wherein the second set of coils are smaller in diameter than the first set of coils.

20 In overcoming the § 112 rejection of claim 4, terminology from claim 11 was incorporated into claim 4. Regarding claim 11, the Office Action recites that Kyoya teaches that it is known that a compressor has an outlet that forms a high pressure side and an inlet that forms a low pressure side, and that it would be obvious to incorporate in Benson a compressor inlet
25 and a compressor outlet “so as to effect a displacement of the valve member using outlet gases of the compressor....”

The applicant respectfully traverses the assertion that it would be obvious (or even useful) to connect a compressor outlet to the turbine inlet and a compressor inlet to the turbine outlet. Moreover, the function of the Benson valve is to open a waste gate valve to avoid an overpressure condition from occurring in the turbine inlet, and the addition of compressor pressure to the turbine inlet would likely cause or worsen such an overpressure condition. The operation of a turbine on a gas stream is antithetical to the operation of a compressor on that same (unaltered) gas stream, as one converts pressurized airflow to mechanical power, and the other converts mechanical power to pressurized airflow. In short, a person of skill in the art would not find it obvious to incorporate in Benson a compressor attached to the turbine as described in the Office Action.

Finally, regarding claim 5, the claim has been amended to recite that the spring is configured in tension to hold the valve member in the closed position. Because of this tension configuration, it is possible to calibrate the valve by varying the pre-load of the spring. When the spring is screwed on the threaded portion of the screw, the coils of the spring tend to open due to the frictional contact between the end portion of the spring having a reduced diameter. However, when an unscrew force is applied to the coil spring, the coils of the spring tend to tighten on the thread and create a self-locking effect. Moreover, when the valve opens, the grip of the spring tightens to avoid movement. Hence, by using such a tension spring assembly, the adjustable tension calibrating system is provided with vibration resistance.

Because the cited references fail to disclose either an opening configured to place a compressor outlet in fluid communication with a compressor inlet, a coil spring having a proximal end attached to the valve member and a distal end forming a second set of coils, wherein the second set of coils are smaller in diameter than the first set of coils, or a spring

configured in tension to hold the valve member in the closed position, the references fail to render claims 4-10 obvious. Therefore, the applicant respectfully requests the rejection of claims 4-10 under 35 U.S.C. § 103(a) be withdrawn.

5 Claims 12-17

Similar to claim 4, claim 12 has been amended to recite “a housing forming an opening configured to place a compressor outlet in fluid communication with a compressor inlet.” Neither Benson nor Smith disclose an opening configured to place a compressor outlet in fluid
10 communication with a compressor inlet.

Moreover, claim 12 further recites “a coil spring having a proximal end attached to the valve member ... and a distal end forming a second set of coils, ... wherein the second set of coils are smaller in diameter than the first set of coils....” Smith discloses a valve with a spring 8 and a separate
15 lock device 12. The lock device is adjustably mounted upon the sleeve 9 and supports the lower end of the spring 8 (see, pg. 1, lines 83-85). Smith fails to disclose a coil spring having a proximal end attached to the valve member and a distal end forming a second set of coils, wherein the second set of coils are smaller in diameter than the first set of coils.

20 Finally, claim 12 has been amended to recite that the spring is configured in tension. As previously noted, when the valve opens, the grip of the spring tightens to avoid movement. Hence, by using such a tension spring assembly, the adjustable tension calibrating system is provided with vibration resistance.

25 Because the cited references fail to disclose a valve member configured for use with an opening configured to place a compressor outlet in fluid communication with a compressor inlet, a coil spring having a

proximal end attached to the valve member and a distal end forming a second set of coils, wherein the second set of coils are smaller in diameter than the first set of coils, or a spring configured in tension to hold the valve member in the closed position, the references fail to render claims 12-17 obvious. Therefore, the applicant respectfully requests the rejection of claims 12-17 under 35 U.S.C. § 103(a) be withdrawn.

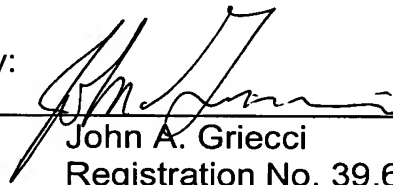
IV. Conclusion

In view of the foregoing, the applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

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